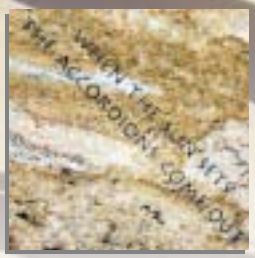
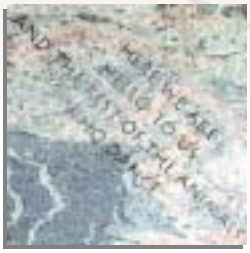
WORDS OVER WATER

**ASU Regents' Professor of English Alberto Ríos and Creative Writing Program coordinator Karla Elling recently collaborated on a public art project in downtown Tempe. They created 600 squares of granite inscribed with words and images representing the history of the Salt River and placed them in the concrete wall surrounding Tempe Town Lake. Here is a glimpse of their handiwork. For more information on the project, go to www.asu.edu/creativewriting/abecedario/**









ASU ARIZONA STATE UNIVERSITY

COLLEGE OF **LIBERAL ARTS AND SCIENCES**
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# CLAS NEWS

COLLEGE OF **LIBERAL ARTS AND SCIENCES**

ASU Arizona State University

SPRING/SUMMER 2002

I hope you like the new content and look of CLAS News. They were developed based on feedback gathered through a recent alumni perception survey. When I was hired as the college's communications manager last year, I set out to learn what our largest constituency—our 53,000 alumni—thinks about CLAS and how we can improve our communication and outreach efforts.

Based on the results of the survey—sent to a random sample of alumni—CLAS News is second only to the Alumni Association magazine as both your primary and preferred source of information about the college. While more than 90 percent of the respondents said they generally read at least a little of the newsletter, fewer than 10 percent read all of it. One of my goals is to entice more of you into reading the publication cover to cover.

With that aim in mind, I developed a content list for CLAS News based on what the survey results indicate are the kinds of stories you're most likely to read. Topping that list is features on research projects, which fill pages 5 through 10 of this issue. Reports on new academic programs came in as the second favorite story topic, so the Around the College section on pages 11 to 13 includes updates on new programs, as well as personnel, facilities and event information.

Other kinds of stories survey respondents said they are most likely to read are alumni profiles and updates, faculty profiles, and news of faculty and student achievements. In this issue, we profile three alumni who have distinguished themselves professionally or personally and three faculty members who recently were named Regents' Professors. We also report on a host of other alumni, faculty and student achievements.

The publication's new look is courtesy of Michael Dambrowski, who was hired as the college's graphic designer last August. I hope the result of our CLAS News overhaul is both visually appealing and informative.

Next we will be working on an overhaul of the college Web site. Only a quarter of alumni responding to the survey have ever visited the Web site (asu.edu/clas), but more of them would prefer to receive information about the college from the Web site than currently do.

I welcome your comments and suggestions about the changes we're making in our communications efforts. You can reach me via e-mail at barby.grant@asu.edu. Happy reading!

Barby Grant
Communications Manager and CLAS News Editor

Cover: ASU geologist Philip Christensen in front of the Delta II rocket that launched his Thermal Emission Imaging System (THEMIS) aboard NASA's Mars Odyssey orbiter in April 2001. Pictured with him is Steve Silverman, an engineer at Santa Barbara Remote Sensing where THEMIS was assembled. See story on pages 5–7.

CLAS NEWS
COLLEGE OF LIBERAL ARTS AND SCIENCES

CLAS News is published by the Arizona State University College of Liberal Arts and Sciences Office of College Advancement for alumni and friends of the college.

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ASU Alumni

It was gratifying to learn from our recent alumni survey that more than 97 percent of our graduates have positive feelings about the education they received from the College of Liberal Arts and Sciences. On the other hand, the survey also revealed that we have work to do to increase the sense of connectedness of our alumni. Just over half of the respondents said they feel somewhat or very connected to the college.

It's important that you remain connected because you are ambassadors for the college. As graduates, you represent CLAS wherever you go. Sending you this publication is one way we try to help you stay connected. We hope that by reading about some of the exciting and significant work being done by CLAS faculty, staff, students and alumni, you'll feel a greater sense of pride in your association with the college and will want to be involved.

On page 30 we have included a response form where you can indicate the level of involvement you would like to have. At a minimum, please keep your address current in our records and let us know about your personal and career achievements. If you are willing to donate some of your time and expertise, our CLASWorks program offers an opportunity for you to be involved in helping students with career advice, job shadowing or internships.

If you are willing to lend your financial support, please take this opportunity to become a dues-paying member of the Alumni Association and/or to make a gift to CLAS. With this year's legislative cuts to the ASU budget, private support from alumni and other friends will become increasingly important if we are to continue making advancements in our teaching, research and outreach efforts.

The recently concluded ASU Campaign for Leadership, which more than doubled its original $300 million goal by raising more than $560 million, offers proof of the community's support for higher education in Arizona. However, alumni contributed only 13 percent of the funds raised through the campaign. For the College of Liberal Arts and Sciences, alumni giving represented only 8 percent of the $64 million raised. We need your help, now and in the future, to make ASU a premier metropolitan institution for the 21st century.

The ASU Foundation plans to publish a full campaign report soon, but I want to take this opportunity to thank those of you who participated—and to remind you that although the campaign has come to a successful conclusion, our need for private support has not ended. You will hear more in the coming months about the college's fund-raising priorities—scholarship endowments for first-generation college students and future leaders, an endowment to reward faculty excellence and ensure retention of our finest professors, program endowments to elevate already-excellent programs to world-class status. In the meantime, stay connected with CLAS, enjoy the newsletter and have a great summer.

David A. Young
Dean

## IN THIS ISSUE

# CHANGING COURSE

# CLAS Faculty and Alumni Move in New Directions After Sept.11

*The terrorist attacks of last September were centered around the east coast, but their impact was felt across the nation. A full 90 percent of Americans suffered from some degree of stress in the wake of the attacks, with 44 percent of adults across the country reporting substantial stress, according to a RAND survey published last November. The primary ways people coped with that stress were by talking to others, turning to religion, and participating in group activities such as discussions and vigils. An alumnus of the College of Liberal Arts and Sciences and several faculty members were among those helping people in New York, New Jersey, Washington, D.C., and Arizona cope with the tragedy.*

## GIVING CARE TO THE CAREGIVERS

After the Sept. 11 terrorist attacks, many Americans turned to their religious beliefs for comfort and answers. Others questioned long-held beliefs, wondering how a benevolent God could allow such tragedies to occur. Religious leaders of all faiths found themselves overwhelmed with new responsibilities and challenges. While congregations turned to their religious leaders for guidance, to whom could the religious leaders turn?

CLAS alumnus William Sage was between assignments for his job at the United Nations when he received a call from Church World Service. Sage had worked for 18 years at the emergency-response and refugee-relief agency, and now they needed him again. Would he help them assist religious leaders in responding to this national crisis?

CLAS alumnus William Sage in New York's Central Park before Sept.11

"We listened to what we heard in the New York City area and determined that many of the clergy and caregivers were under enormous amounts of pressure to respond to the needs of their congregations and communities," says Sage. "In one New Jersey township, within 10 days they held 32 funerals. You can imagine for the priests and pastors what enormous pressure that is," he says.

To ease the burden, Sage coordinates an interfaith trauma response team. The team offers workshops that train clergy and caregivers to deal with the responsibilities of helping a traumatized public. The group began offering the workshops in New York, New Jersey and Washington D.C. in October. The sessions teach skills for dealing with the long-term recovery process.

"We help people understand some of the stages of grief for families and communities so they are better able to provide support throughout the bereavement process," explains Sage. "Most clergy have already been trained in clinical pastoral education, but the magnitude of this tragedy requires enhanced training. We also really enforce the need for self-care, pacing yourself, taking time for yourself and your family," Sage adds. "Clergy take on so much, often more than they need to when there are other resources to draw on."

Sage graduated from ASU with a political science degree in 1968. In his previous work with Church World Service, which is made up of 36 member Protestant, Orthodox and Anglican denominations, he traveled the world helping immigrants and refugees. In 2000 he went to work for the U.N. High Commissioner for Refugees. He had just finished an assignment in India and was back in New York when the terrorist attacks occurred. He decided he could be most helpful remaining in New York at that time and coordinating the trauma response team for Church World Service.

"I'm not clergy, I'm not ordained, but I know New York pretty well, and I had an idea where we could draw upon appropriate resources," he says.

## EASING MINDS THROUGH EDUCATION

While the Sept. 11 attacks led many people to question and explore their personal beliefs, they also led many to consider the political and social implications of religion, and to seek a greater understanding of Islam.

"Americans tend to think of religion as personal and private, but in other parts of the world it is public and shapes social behavior," explains Joel Gereboff, chair of the department of religious studies in the College of Liberal Arts and Sciences. "Given the central role religious convictions play in the political and social thinking of significant groups in this world, it's important that people understand those religious views," he says.

In February, the department sponsored a two-day conference on religion and nationalism, with speakers from various departments at ASU and other institutions. The conference explored social-political-religious connections in places such as Japan, Eastern Europe and Burma. Religious studies professor Mark Woodward presented a session titled, "A Theology of Terror: the Religious Thought of Osama Bin Laden, the Taliban and Hizb al Tahrir al Islami."

Woodward also taught a course on that topic this spring. Although the class was announced last-minute, about 90 students enrolled. Woodward has also held speaking engagements in the community and consults on policy issues in Washington, D.C.

Dave Damrel, an assistant professor of religious studies and an expert on Islam, also has given talks throughout the local community since Sept. 11. He says he is pleased to see so much public interest in learning about Islam.

PHOTO: ANDY SAWYER / EAST VALLEY TRIBUNE

Assistant professor of religious studies Dave Damrel speaks to a group in Chandler.

"It really reflects that people are interested in these issues and want to learn more. I was concerned to see what would happen to American Muslims in those tense early days after Sept. 11. There were some negative incidents nationwide, but overall it was a gratifying response. There were episodes where people came out to support the Muslim community—church groups standing in front of mosques to show solidarity."

In his presentations, Damrel tries to give people a basic set of tools to help them interpret all the news related to Sept. 11. He has presented nearly 40 talks on Islam, some of them as part of the Arizona Humanities Council's "community conversations" program. He provides a basic introduction to Islam, answering such questions as: What is the Koran? Who was Mohammed? What do Muslims do in their religious life?

"Learning about Islam and Muslims can be complicated," Damrel says. "It is a religion that is spread across the world in various cultures.

"I also talk about the American Muslim community," he says. "There's been a kind of cultural blind spot in the United States toward recognizing Muslims. The six to seven million American Muslims are as large as the Jewish community, but they don't make it into popular discussions of religion. It's important for people to understand that there are Muslims in America who serve in the military and are part of the society."

ASU history professor Roger Adelson also believes the American public needs more education about Islam.

"I'm not a Muslim, but I think it's outrageous that we don't educate people about Islam," he says. "There is ignorance and bias toward the Islamic world."

Well before the Sept. 11 attacks, Adelson was asked to teach a course on the Islamic world for the ASU President's Community Enrichment Program. The program offers a variety of courses to the general public, taught by leading ASU faculty.

"When they announced the class just after Sept. 11, my course filled up in two days," says Adelson. The president asked him to give a public lecture in addition to the class. The lecture also sold out, and Adelson presented a second one to meet the demand.

"The topic I chose was 'Islam and the World: Past, Present and Future,'" says Adelson. The course examined the history and development of Islam, its expansion–primarily through peaceful means–and the impact of European imperialism, the United States and the Cold War on the Islamic world.

"The class didn't have to do with Sept. 11, but people said it put their minds at ease when they saw the whole context and realized you couldn't judge a whole religion on the actions of a few people," he says.

Adelson says that the terrorist attacks had a strong impact on his work, leading to several changes. First, he decided to offer his global history course every semester. He also developed a new graduate class on 20th-century roots of Middle East terrorism.

"Sept. 11 has had quite an effect on me, leading me to change my teaching plans, establish new courses, and do this teaching in the community," he says. "Educators have to build bridges of understanding toward this part of the world and not treat it as one huge monolith. The risk is that if we don't recognize its diversity, we can stereotype it and demonize it, and that's very dangerous."

# MARTIAN CHRONICLES

**CLAS RESEARCHERS' CONTRIBUTIONS TO MARS EXPLORATION ARE REAPING TANTALIZING KNOWLEDGE OF OUR CELESTIAL SIBLING, RAISING INTRIGUING QUESTIONS ABOUT THE ORIGINS OF LIFE IN THE UNIVERSE AND ROCKETING ASU'S REPUTATION IN PLANETARY SCIENCES INTO THE STRATOSPHERE.**

THEMIS

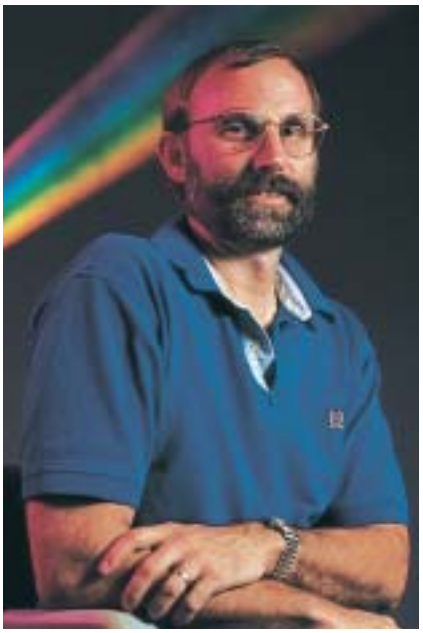
Mounting THEMIS to Odyssey

Odyssey launch

Since its most pronounced surface features were first observed by astronomers in the early 15th century, Mars has captivated the imagination of earthlings like no other heavenly body. At times a mere 35 million miles from Earth, its visible features spawned fancies of vast seas, lush vegetation, barren deserts and eventually even dreams of advanced cities and life-forms. Though by1976 we certainly knew better, who among us who saw those first images collected by NASA's Viking 1 lander didn't secretly feel compelled to scour the scenes carefully for tiny plants or the shadows of creatures moving just beyond the camera's peripheral view!

Background photo: An image of the northern interior wall of Coprates Chasma, one of the major canyons on Mars, taken by THEMIS.

While that mission squelched lingering fantasies the average citizen may have had of finding "visible life" on the Red Planet, it only intensified the scientific community's efforts to understand the Mars of yesterday and today, while continuing the search for traces of life and evermore promising landing sites. The heightened science efforts of the last two decades have resulted in a firestorm of fresh and exciting discoveries that are once again capturing the imagination of the world—and researchers in the College of Liberal Arts and Sciences are fueling some of the most compelling finds.



Philip Christensen

## SEEING RED

In recent weeks it's probably been impossible to tune into your favorite news channel or log onto your Internet browser's home page without encountering dramatic images and stories about the "new Mars." Many of the images you've been seeing have been captured by THEMIS, the Thermal Emission Imaging System aboard NASA's Mars Odyssey orbiter.

THEMIS is the brainchild of Philip Christensen, the Edgar and Helen Korrick Presidential Professor of Geology at ASU. Christensen is leading a team of some 50 scientists at ASU's Planetary Imaging Analysis Facility and Advanced Training Institute in the capture and analysis of the 15,000 images likely to result from this mission. Though the real analysis is only just beginning, the science community is already abuzz with anticipation.

"With THEMIS we're getting the global, big picture… a deeper and larger understanding of what's going on," says Christensen. "Imagine hovering in a little chair above a map the size of a football field. Mars is being displayed to us at that resolution. It's spectacular stuff," he marvels. "The amount of detail and variability we're seeing is surprising. Now we're off wondering what is causing all this variability. And we're just starting to scratch the surface."

Christensen, whose study of Mars began as a graduate student working on NASA's Viking team, is the principal investigator for the THEMIS project. THEMIS builds upon the Thermal Emission Spectrometer (TES)—the imaging instrumentation he was in charge of developing that was aboard the Mars Global Surveyor.

"From TES we learned what minerals were present on Mars, where former hydrothermal systems might have been located, the mineral compositions of the dust, ice and rocks on Mars, and ideas about where the most interesting and unique places on the Martian surface might be," he explains.

Now Christensen and his team are zeroing in on these unique locations with THEMIS, which produces sharper images—30 times clearer than the TES images—and can shoot using both the visible and infrared parts of the spectrum. THEMIS continues TES's mission to determine the distribution of minerals on the Martian surface, map the entire planet and identify where ancient, wet environments—and possibly life—may once have existed. Its infrared capabilities are especially powerful. Each mineral present radiates heat back to space in a unique way, showing up as a different color in the infrared spectrum.

Researchers are especially on the lookout for minerals that are known to form in water, as well as for hot spots that might once have been breeding grounds for life, such as hydrothermal geysers or volcanoes. The initial infrared images reveal a surprisingly diverse landscape, created under a variety of environmental conditions.

"We knew from Mars Global Surveyor that Mars was layered, but these data from Odyssey are the first direct evidence that the physical properties of the layers are different," says Christensen. "It's evidence that the environment changed over time as these layers were laid down. The history of Mars is staring us in the face in these different layers, and we're just beginning to figure it all out."

## 'WORLDS ON WORLDS COMPOSE ONE UNIVERSE'

When Alexander Pope penned "An Essay on Man," his observations from Epistle I, below, might well have been written to celebrate the career of Ronald Greeley, Regents' Professor of Geological Sciences:

> *"He, who through vast immensity can pierce,*
> *See worlds on worlds compose one universe,*
> *Observe how system into system runs,*
> *What other planets circle other suns,*
> *What varied Being peoples every star,*
> *May tell why Heaven has made us as we are."*

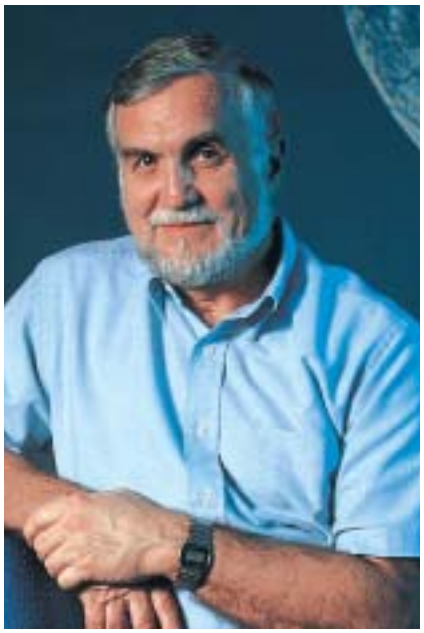
Greeley has been involved in lunar and planetary studies for 35 years. His aim is to gain an understanding of planetary surface processes and geological histories by combining spacecraft data analysis, laboratory experiments and geological field studies on Earth of features analogous to those observed on the planets. His breadth of expertise and cumulative understanding of the forces of nature on Earth, Mars, Jupiter and their moons make him a "connector of dots" to the nth degree, able to see patterns and bring findings from one environment to bear on research in another.

Greeley has been at the very cusp of Mars research since his involvement with the Viking expedition in the 1970s. His NASA-funded research initiatives exceed $1 million per year, and in February he was awarded a six-figure grant to continue his study of geological features related to Martian winds, including sand dunes, wind streaks and dust deposits.

"We've been doing wind-tunnel experiments to understand the physics and geology of windblown sand and dust on the planet," Greeley says. "We see features that are changing in response to the winds on Mars and how these changes fit to the general circulation of the atmosphere."

The findings are significant in shaping plans for landing sites for future missions. They are also of value in understanding the impact of dust storms on Earth, for the processes are fundamentally the same on both planets.

A member of the imaging teams for both the Mars Pathfinder and Mars Polar Lander missions, Greeley is a co-investigator on the German camera experiment that will accompany the European Space Agency's Mars Express mission, set to launch in 2003. The experiment will coordinate imaging related to volcanism, wind features and sites for extra-terrestrial biology.



Ronald Greeley

## RED ROVER, RED ROVER

In mid-2003 NASA's Mars Exploration Rover (MER) mission will launch two identical rover vehicles that will arrive at separate destinations on the planet in early 2004. Four ASU researchers will be involved in the science of that mission, and some are already at work on deciding where the rovers should land. About the size of a desk, each rover will be limited to traveling 110 yards in any direction from its original landing site. They'll want to set down where the most interesting mineral deposits are located but also where the rovers will best be able to maneuver.

Phil Christensen is the principal investigator in charge of the Mini-TES instruments that will be on each rover. NASA has also funded proposals for specific research studies by Ron Greeley, geological sciences professor Jack D. Farmer, and senior research specialist James W. Rice. Each selected investigator will work with the MER Program Office at NASA's Jet Propulsion Laboratory and become full science-team members.

## THE MOTHER LODE: 1,000 DUST SPECKS

To jump-start its Scout missions to Mars, planned for 2007, NASA gave preliminary funding last summer to 10 highly creative mission concepts—those that attempt to answer some of the most important science questions about Mars and were deemed "most promising" for development into fully-funded missions. ASU geologist and cosmochemist Laurie Leshin's proposal was ranked the top one of the 43 submitted. She and her team received $150,000 to flesh out the concept, and this July they will submit a $325 million proposal, hoping to make the final cut and bring the project to fruition.

Laurie Leshin

Leshin's team proposes sending a bullet-shaped spacecraft to within 25 miles of the planet's surface, where it would swoop in for 60 seconds at a speed of 12,300 miles per hour, grab and preserve 1,000 dust particles in a porous high-tech substance known as "aerogel," and then immediately begin its return to Earth, landing in 2009. The project, dubbed SCIM, would result in the first return of a Martian sample, at lower cost, lower risk and far more quickly than the more complicated missions that eventually will collect surface samples. It may sound like a tiny payoff for such a huge investment, but those 1,000 particles could be equivalent to a mother lode.

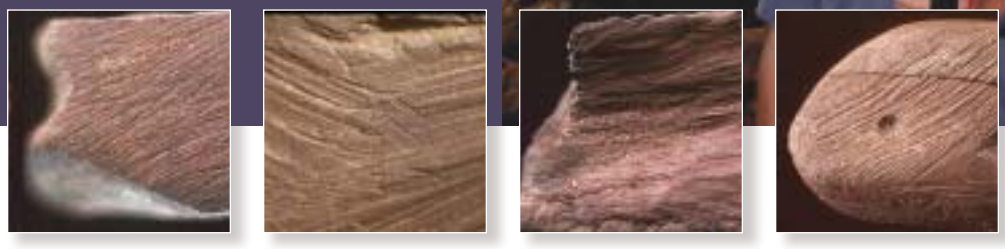
"On Mars, dust is the ubiquitous layer—it's everywhere, yet we really know very little about it," says Leshin. "Because it's so fine-grained, it is an extremely sensitive indicator of Martian environmental conditions. Each grain is like a little rock from Mars. If there's been water on the Martian surface, it's this fine-grained stuff that's going to have been altered by that. Studying this dust is key to following the water on Mars," Leshin explains.

"If it's brought back to Earth, it can be characterized grain by grain and even sliced into different sized bits and sent off to a variety of labs for analysis," she observes. "You can bring a whole cadre of analytical tools to bear on a single 10-micron particle.

"SCIM would give us a chance to test the procedures and to validate the concept of going to Mars and coming back to Earth," Leshin adds. "It would give us a chance to characterize some of the fundamental Martian surface materials, and a chance to practice handling those materials on a benign sample. Further, the human exploration people are really, really interested in this dust, because you need to know about it to design many aspects of an eventual human mission to Mars."

Don't mark your calendars just yet, but with the leaps in knowledge that each unmanned mission brings, a human mission—even within the next 30 years—might be feasible. Given the upward trajectory of CLAS scientists' involvement in Mars exploration, it seems highly likely that if such a mission occurs, a CLAS scientist will be aboard.

# Discovery Shows Human Intelligence Developed in Africa



▲ Anthropology professor Curtis Marean at Mossel Bay in South Africa
◀ Ochre piece with scrape marks. Scraping was done possibly to obtain powder.

For decades, most archeologists believed that the modern human intellect developed about 40,000 years ago in a sudden "creative explosion" in Europe. Those beliefs have been shattered, however, by the recent discovery of 28 bone tools in a South African cave. The tools demonstrate that modern thought dates back more than 70,000 years in Africa.

ASU anthropology professor Curtis Marean helped analyze the findings and co-authored a paper on the discovery that was published in the December 2001 issue of the Journal of Human Evolution. The discovery also made the front page of the Dec. 2 New York Times and was covered by the BBC, National Geographic, Scientific American, U.S. News and World Report and by media in Chile, Germany and Great Britain.

The bone tools were found in Blombos Cave, in a cliff overlooking the Indian Ocean, by a team of archeologists led by Christopher Henshilwood, who is affiliated with the South African Museum in Cape Town and the State University of New York at Stony Brook. Marean was asked to study the artifacts because of his expertise in analyzing ancient bones.

The artifacts lay beneath a layer of dune sand known to date back to the last glacial period 70,000 years ago, when the Indian Ocean retreated. The tools, preserved beneath the sand, must date back before that period—although their exact age remains unknown.

"I'd give a ballpark figure of 80 to 90,000 years," says Marean, who joined the ASU Institute of Human Origins and anthropology department faculty last year. Current carbon dating techniques cannot date soil or bone older than 40,000 years, but Marean says the team is now working to get radiometric data on the age of the sediments surrounding the artifacts.

Over the past decade, archeologists have found other clues that indicate modern intelligence early on in Africa. However, such evidence was weak. These new findings conclusively show that Africa—not Europe—is the cradle of human intelligence.

The tools are much more sophisticated than the simple stone tools of other early hominids. The collection includes three finely polished projectile points, probably used for hunting.

"Bone tools, as opposed to stone tools, involve a very complicated production process," explains Marean. "These tools were first flaked, then they were ground, then polished. The tools have a very high performance, but they require a high initial investment as well."

In addition to the bone tools, the team found 8,000 pieces of ochre, a mineral compound frequently used by aboriginal peoples for body decoration. Such decoration provides evidence of symbolic thought, a hallmark of modern intellect. Some of the artifacts have also been engraved in abstract motifs. These engravings resemble designs found in art produced by the Khoi-San people who live in southern Africa today.

"In terms of human evolution, we are seeing Africa as being precocious—Bipedal hominids evolved in Africa, and the first real increase in brain size occurred in Africa," says Marean. "With this latest discovery, we are beginning to see that the last great advance, the development of modern behavior, was made in Africa as well. Now the question becomes, 'Where in Africa did this first begin to happen, and why did it happen?'"

▼ Bone awls from Blombos Cave

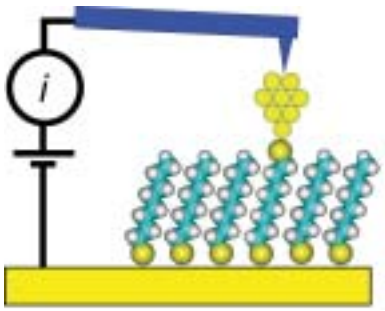
Marean is working to discover answers to those questions. He is now leading a research project at Mossel Bay, which overlooks the Indian Ocean about 100 kilometers east of Blombos Cave. After surveying only a small portion of the research area, Marean's team found 21 sites dating to the Middle Stone Ages, including 15 caves or rock shelters. He plans to lead a full-blown excavation of the sites next spring.

## CLAS Scientists Solve Molecular Problem

Scientists predict that it will be possible one day to detect cancerous tumors that are only a few cells in size, to shrink all the information in the Library of Congress into a device the size of a sugar cube, and to create a computer the size of a teardrop with the power of today's fastest supercomputers. When that day comes, society may have some CLAS faculty to thank.

A team of ASU physicists and chemists recently solved a critical problem in the field of molecular-scale electronics, which has been widely touted as "the next step" in electronic miniaturization that could lead to miraculous improvements in the quality of our lives. Progress in the field has been hampered by the inability to manipulate single molecules so their electronic capabilities can be tested and then applied.

Past attempts to measure the electrical properties of small numbers of molecules have given a wide range of values for their conductivities. Most previous studies have relied on a "mechanical" contact between molecules and a metallic wire, where the two are simply pushed together.




"Any hobbyist knows that the best electrical contacts are made by soldering the components together," says chemistry professor Devens Gust, a member of the research team. "What we've needed is a way to 'solder' individual molecules on a molecular 'circuit board.'"

That feat has now been accomplished by the team of ASU physics and chemistry faculty and a Motorola scientist. In a paper published last fall in the journal Science, the team reported a method for creating through-bond electrical contacts with single molecules and the achievement of reproducible measurements of the molecules' conductivity.

"For the first time, it will be possible to systematically study the molecule-contact interface in a reliable and reproducible way," said an editorial in Science about the ASU study. "The work of [the ASU team] finally gives us a tool to begin in earnest the study of single-molecule devices."

## Study Makes Urban Water Cheaper, Tastier

The Phoenix metropolitan area, like many urban areas, has a taste and odor problem in its water supply. Consumers frequently complain that the water tastes and smells "musty," "moldy," "earthy," or "stagnant."

The water is not actually unhealthy, but it can be unpleasant, says ASU plant biologist and CLAS associate dean Milton Sommerfeld. An authority on urban water systems, Sommerfeld is leading a collaborative research project on water supply taste and odor, sponsored by the City of Phoenix.

Most of the taste and odor problems in the Phoenix area are caused by the presence of a chemical called MIB that certain blue-green algae–or cyanobacteria—make during photosynthesis. The algae sometimes leak MIB into the surrounding water, or release it when they die.

Not all cyanobacteria release MIB. Through regular water sampling, Sommerfeld's team has been able to isolate the problem to seven or eight species among several hundred that inhabit the Phoenix area water system.

Blooms of MIB-producing species typically peak in Phoenix in the late summer or early fall, when the water is warm and salty. Saguaro Lake and sections of the Arizona Canal are particular problem areas, though the organisms can occur almost anywhere.

One solution to the problem is to use powdered activated carbon at the water treatment plant. However, continuous use of this treatment can be very costly.

Plant biologist Milton Sommerfeld with algae

Through regular monitoring of area canals and lakes, the researchers are helping reduce costs by allowing treatment plants to use activated carbon only during problem periods, and only at the plants where the water supply is affected.

Selectively timing the use of water sources also offers promise. Reducing usage of salty Salt River system water during high temperature months could reduce the amount of MIB that needs to be removed by the treatment plants. More specific water supply selection based on monitoring reports would yield even better results.

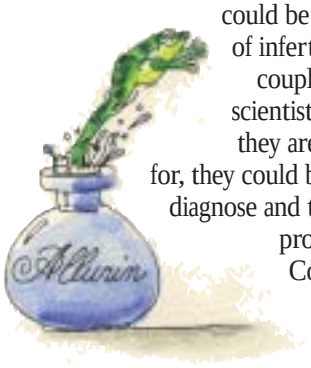
"If we can gain a scientific understanding of what's happening in the different parts of the system, it will greatly improve how effectively we can manage taste and odor problems for the Valley," says Sommerfeld.

## New Protein Alluring to Frog Sperm

It almost sounds like the latest scent from Calvin Klein, and like a perfume the newly discovered protein allurin has something to do with male-female attraction, at the molecular level. Allurin is the first sperm chemoattractant—a protein that has the power to attract sperm to an egg—to be isolated from a vertebrate animal.

ASU biologist Douglas Chandler and a team of other CLAS faculty and students discovered allurin in the jelly-like material that surrounds the eggs of a certain species of frog. Chandler and his team think that allurin could be similar to sperm chemoattractants in other vertebrates, and they hope that understanding allurin will be the gateway to understanding sperm chemoattraction in higher organisms like humans and other mammals.

Once a human sperm chemoattractant is characterized, scientists can explore some possible clinical applications. Problems with chemoattraction could be the cause of infertility in couples, and if scientists know what they are looking for, they could be able to diagnose and treat the problem.




Conversely, by chemically blocking the chemoattractant, scientists could potentially create a new contraceptive.

"Sperm chemoattraction plays an important role in fertilization, but a human sperm chemoattractant has never been isolated," says Chandler. "For whatever reason, it's proven very difficult to characterize."

The CLAS scientists' discovery was published last fall in the Proceedings of the National Academy of Science. As part of their future research, Chandler and his colleagues will look for sperm-binding proteins in the female reproductive tracts of other species.

## Coaches Affect Kids' Moral Development

When your children swing a bat, shoot a basket, or slap a hockey puck down the ice, they may also be developing good morals—or they may be learning to be selfish and dishonest. According to exercise science professor Darren Treasure, who specializes in sport psychology, the kind of coaching children experience can make a big difference in their moral development.

Good coaching—which emphasizes personal improvement and task mastery (mastery-oriented)—can make sports and athletics one of the most effective moral tutors available to parents. Bad coaching—which emphasizes winning as the sole source of success (performance-oriented)—can be dangerous, promoting dishonesty and selfishness.

"If winning is everything, an athlete will do anything to win," says Treasure.

He has conducted a series of studies on youth athletics, one of which will be published in an upcoming issue of Psychology of Sport and Exercise. In the study, Treasure surveyed 279 male soccer players ages 12 to 14 about the motivational climate of their teams, ideas of sportsmanship, and social-moral reasoning and behavior.

The data show a definite link between mastery-oriented coaching, good sportsmanship, and a well-developed set of morals. Mastery-oriented players wanted to act fairly on the field and were conscious of the needs of others. Performance-oriented players, on the other hand, were most likely to report hostility and engage in illegitimate and unjust behavior toward other players.

These conclusions inspired Treasure to take his research outside the university. He is working with the Arizona Interscholastic Association to implement a program that provides high school coaches and administrators with the skills and strategies to develop student-athletes of character.

## Researcher Helps Children Gain Critical Language Skills

By the age of five, most children are ready to head off to kindergarten. But are they ready to learn? Not if they don't have adequate language skills, says Jeanne Wilcox, professor of speech and hearing science and director of the infant child research program in the College of Liberal Arts and Sciences.

Wilcox says much learning is based on language. Beyond vocabulary, people need language to describe and understand the world around them. Abstract thinking and concepts such as understanding sequences and the ability to describe and explain events all depend on language. Without adequate skills in this area, a child may have a difficult time making it through school.

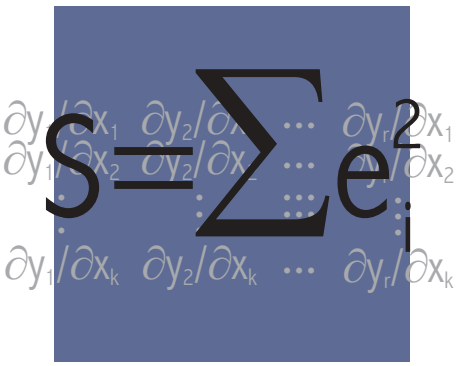
The children most at risk are those living in poverty and those who are learning English as their second language. For the past five years, Wilcox has been working with Phoenix-area Head Start teachers to provide these children with the language tools they will need to succeed in school.

After looking at ways to improve the language-learning environment, Wilcox has developed a series of language-based activities that are integrated within typical preschool activities. She also has created a teacher self-assessment to help identify and monitor implementation of classroom language goals.

"The kids are as good as the environment they're in, often better," Wilcox says. "The teachers are the same way. We just need to give them the best opportunity to succeed."

Wilcox recently received a $100,000 grant from the Virginia G. Piper Charitable Trust to put the teaching program she has developed into action in additional schools. The grant was one of 68 awarded from among 325 proposals the trust received.

**"Around the College" features reports on academic and personnel changes, new facilities and other information about what's happening in CLAS.**




ACADEMICS

## Math department gets new name, new degrees

The mathematics department has a new name and two new degree programs. Earlier this year, the department of mathematics became the **department of mathematics and statistics**. The name change reflects the department's ongoing commitment to education and research in statistics, a discipline that is closely related to but distinct from mathematics. Demand for statistics education has increased during the past decade, at both the baccalaureate and graduate-degree level, and most other major universities have a separate statistics department or a combined department of mathematics and statistics.

"This name change will make us more competitive as we continue to improve our programs, and it will allow us to serve the needs of the university and its students in a more effective manner," says Andrew Bremner, chair of the department.

### NEW DEGREES

In response to the rapidly growing demand for professionals in emerging fields such as genetics who possess both an understanding of the life sciences and strong computation skills, the department also has implemented two new degree programs: **bachelor of science in computational mathematical sciences** and **master of science in computational biosciences**. The bachelor's program, which replaces the major in computer science, emphasizes broad training in the sciences, mathematics and computation.

The M.S. in computational biosciences is an interdisciplinary program involving the departments of biology, chemistry and biochemistry, mathematics and statistics, microbiology, physics and astronomy, and plant biology as well as the computer science and engineering department in the College of Engineering and Applied Sciences. It is aimed primarily at students with an undergraduate degree in biochemistry, computational mathematical sciences, or molecular biosciences and biotechnology.

The program was developed in collaboration with the private bioindustry sector and is guided by an external advisory board composed of representatives from that industry, including Barrow Neurological Institute and Motorola. The first class of students will begin the program this fall.

## Exercise science/physical education also renamed

In early June, the former department of exercise science and physical education took on the much shorter name **department of kinesiology**. The department's faculty requested the change to better represent the breadth and diversity of their teaching and scholarly activity and because many peer departments at other schools have adopted that name.

"As the academic discipline related to the study of movement and physical activity has matured over the past several decades, the term kinesiology has emerged as the most common way to describe it," explains department chair Philip Martin. "The name kinesiology will serve us well as we continue to strive for uniqueness and excellence."

The bachelor of science and master of science degrees awarded by the department also will change to kinesiology, from exercise science/physical education, beginning this fall. The master of physical education degree and Ph.D. in exercise science will remain the same.

## Career management classes added to course offerings

Liberal arts and sciences majors at ASU now have more help when it comes to deciding what to do with their degrees once they graduate. The CLAS Academic Programs Office has created two new courses, **career management for liberal arts majors** and **career management for science majors**, that will be offered beginning this fall. The classes will be taught by Jan Pagoria, who was hired last fall as director of CLASWorks, the college's career-development program.


Jan Pagoria

The new 300-level one-credit-hour courses will guide students through an individualized career management plan. Pagoria, who has more than 14 years of experience in career services and academic advising in higher education, says the courses will help CLAS students identify the steps they need to take to get prepared for a professional career before graduation.

"Today's CLAS student is eclectic, multi-dimensional and very talented," says Pagoria. "It just takes a sensitive approach to the self-assessment, market research and preparation needed to make the career management process for these students less painful and more productive."

## Doctoral education undergoing reforms

A number of national education leaders in recent years have called for changes in the way Ph.D. candidates are trained, with the goal of improving their preparation for teaching, fostering interdisciplinary collaborations, and connecting their work more closely to society. The ASU College of Liberal Arts and Sciences is involved in a couple of national initiatives related to those aims.

### RESPONSIVE PH.D. INITIATIVE

Last summer, the Woodrow Wilson National Fellowship Foundation selected 14 schools, including ASU, Princeton and Yale, to participate as demonstration sites in its "Responsive Ph.D." initiative. The schools are engaging their campus and external communities in discussions to generate recommendations for improving doctoral education. The Graduate College is spearheading the project at ASU, with assistance from CLAS. CLAS associate dean Nancy Gutierrez coordinated a series of focus groups this spring with students, faculty and staff in selected departments. A final report on the ASU findings is due next year.

### IGERT GRANTS

Two CLAS faculty members have won prestigious Integrative Graduate Education and Research Traineeship Program (IGERT) grants from the National Science Foundation (NSF) in the past two years. NSF initiated the IGERT program in 1997 to help bring about cultural change in graduate education. IGERT grants are awarded to faculty who develop innovative models for educating Ph.D. students in a collaborative research environment that transcends traditional disciplinary boundaries.

Chemistry professor Neal Woodbury won a $2.7 million IGERT grant this year for a new graduate program that will combine state-of-the-art research in biochemistry with engineering applications. Last year, biology professor Stuart Fisher won an IGERT grant for a graduate program in urban ecology.

**PERSONNEL**

## New associate dean named

In January, associate professor of English **Daniel Bivona** was appointed associate dean for academic programs for the College of Liberal Arts and Sciences. He replaces Leonard Gordon, who retired at the end of 2001 after serving in the position for 11 years. Bivona, who was previously chair of the English department, has been on the ASU faculty since 1996. He earned his Ph.D. in English from Brown University.


Daniel Bivona

As associate dean for academic programs, Bivona is part of the senior management team for the college and is responsible for all aspects of student learning and success. He supervises the Office of Academic Programs, which includes an assistant dean, college advisors and academic support personnel. Among his major responsibilities is developing new initiatives to increase student retention and graduation rates.

"My overall goal is to improve the academic life of all our undergraduate and graduate students," says Bivona, "so once they enroll as liberal arts majors at ASU, they don't leave without a diploma."

FACILITIES

## New Coor Building to replace social sciences

On what used to be visitor parking lot 8 on the ASU Main Campus, at Myrtle Ave. and 10th St., earthmovers are now clearing ground for the construction of a new mediated classroom building. Targeted for completion late next year, the seven-story building will provide 274,000 square feet of space for classrooms, offices and an open computer site. The structure's official name will be the Lattie F. Coor Mediated Classroom Building, in honor of the university's 15th president upon his June 30 retirement.

Artist's rendering of Lattie F. Coor Mediated Classroom Building now under construction

The building was originally planned for completion in fall 2001, but construction was delayed due to budget problems. The new facility will replace the existing social sciences building, which engineers discovered last spring has structural problems that will require its eventual demolition. The Coor Building will house the departments of Chicana and Chicano studies, history, philosophy, political science, sociology, and speech and hearing science as well as the Center for Asian Studies, the Center for Latin American Studies and the Center for Medieval and Renaissance Studies.

A Web cam has been installed so interested parties can watch the construction project's progress. Go to http://129.219.95.120/view/indexFrame.shtml to view live images as the building is erected.

EVENTS

## ASU WebEvent calendar good source for event info

Ever wonder how you can easily find out about the myriad events occurring on campus? Since the university's WebEvent calendar system debuted last December, you can simply go to events.asu.edu on the Internet.


The calendar lists all kinds of public events at ASU, from astronomy lectures to wrestling matches. The Web site has more than 30 different calendars, and you can view all of them or select just the types of events you are interested in, such as those sponsored by the College of Liberal Arts and Sciences. Major college events scheduled during the next six months also are listed on page 29 of this publication.

# OUR NEW REGENTS' PROFESSORS

**The title Regents' Professor is conferred by the Arizona Board of Regents on only three percent of the tenured faculty at each of the state's universities. The designation is reserved for faculty members who have demonstrated exceptional scholarship and outstanding achievements. Regents' Professor nominees must be recognized internationally as distinguished scholars, be successful teachers of exceptional ability, and demonstrate interests and accomplishments that extend beyond their field of study. Seventy percent—31 out of 44—of the Regents' Professors at ASU are affiliated with the College of Liberal Arts and Sciences. The three newest CLAS Regents' Professors are profiled here.**

## Anthropologist Geoffrey Clark

One would expect a paleoanthropologist to be most interested in the dead, as the field generally involves the study of fossilized human ancestors and their archaeological remains. But Geoffrey Clark is far more interested in the living. Although he has done research on ancient hominids and paleolithic archaeology in France, Spain and Jordan, Clark has set his sights on a more exotic species—the contemporary scientist.

Clark, who was recently named a Regents' Professor, has been involved with the highly visible and contentious field of human origins research for many years. His most high-profile research involved the study of early Homo sapiens and the debate over the very similar hominids called Neandertals. Over the years, however, Clark developed a growing awareness of larger issues behind the science and the public argument.

"The field is very focused on data and discoveries; it is highly empirical, sometimes to the extent that there's little or no concern with the conceptual frameworks that archaeologists use to make sense of the past," Clark says.

Clark came to ASU in 1971 fresh out of graduate school at the University of Chicago. Over time, he discovered that the stability of a life-long academic position still allowed for a major career change.

"Originally, I was interested in hunter-gatherer adaptations in the Pleistocene, particularly in northern coastal Spain," Clark says. "Over the years my interests shifted more toward epistemological concerns—how we know what we think we know about the remote human past—and how these concerns affect interpretations of pattern in paleolithic archaeology and human paleontology."

Since 1987, Clark has written and spoken extensively on theory in modern human origins research. Currently he is writing a book called "The Myth of Eve," which outlines the conceptual frameworks that paleoanthropologists use and includes discussions of the archaeology, human paleontology and genetics of modern human origins. Clark's interest in epistemology also has led him outside of academia into the realm of public education as a frequent writer of newspaper editorials, particularly on science and public policy issues that bear on social pathologies like racism and ethnic conflict.

"The public's notion of 'race' is based on a fundamental misconception about human biological variation—that it's discrete and bounded, that it persists through time," Clark says. "This is not something new that has popped up in the last couple of years—science has known these things for several generations. And yet, the basic science is not being conveyed to the American public."

Most scientists feel some reticence about communicating their knowledge in a public forum like a daily newspaper, perhaps fearing political back-

> "I THINK ONE OBLIGATION THAT SCIENTISTS WHO UNDERSTAND THE BASIS FOR HUMAN VARIATION HAVE IS TO TRY TO CONVEY IT TO THE PUBLIC. ONE CAN LEGITIMATELY SAY THAT WE THINK THE WAY WE DO ABOUT RACE AND ETHNICITY BECAUSE NOBODY HAS EVER TAUGHT US DIFFERENTLY. THE ONLY ANSWERS IN THE LONG RUN ARE GOING TO BE PROVIDED BY EDUCATION."
>
> REGENTS' PROFESSOR GEOFFREY CLARK

Regents' Professor of Anthropology Geoffrey Clark

lash. But Clark feels a fundamental duty to speak out.

"I think one obligation that scientists who understand the basis for human variation have is to try to convey it to the public," he says. "One can legitimately say that we think the way we do about race and ethnicity because nobody has ever taught us differently. The only answers in the long run are going to be provided by education."

## Biologist and philosopher Jane Maienshein

If Jane Maienschein is certain of one thing, it's that she will never run out of questions to ask. Curiosity and a continual quest for knowledge, particularly in science, are among her defining characteristics.

"Science is not about answers, it's about questions," says Maienschein, a professor of biology and philosophy. "We get partial answers or get closer to answers, then there are always more questions. The fun is in the exploration."

Maienschein, a recognized expert in the history and philosophy of science who recently was named a Regents' Professor, says she grew up asking questions. Her father, a nuclear physicist at Oak Ridge National Laboratory in Oak Ridge, Tenn., and her mother, a music teacher and lifetime Girl Scout volunteer, continually engaged their two children in the world around them. The family would take long trips to national parks and other hiking destinations. Along the way the children would inevitably ask, "When are we going to get there?" Maienschein's father would tell them how fast they were going, give them a map and help them figure it out.

Regents' Professor of Philosophy and Biology Jane Maienshein with student Esther Ellsworth

"I GET TEACHING AWARDS BECAUSE MY STUDENTS ARE GREAT. THEY ARE EXCITED ABOUT LEARNING, AND WE ALL SHARE A CURIOSITY ABOUT NATURE AND SCIENCE AND A WILLINGNESS TO WORK HARD TOGETHER. THE REGENTS' PROFESSORSHIP IS A HUGE HONOR THAT ALSO REFLECTS MY GOOD FORTUNE IN HAVING THE BEST STUDENTS AND WONDERFUL COLLEAGUES."

REGENTS' PROFESSOR JANE MAIENSHEIN

"It was great fun," she says. "We really got into the process and didn't even realize we were doing science and math."

When she got to college, Maienschein was planning to follow in her father's footsteps and become a physicist, until she discovered she loved the entire field of science. She went to MIT and then transferred to Yale when it first opened its doors to women, majoring in an honors program called history, the arts and letters.

Maienschein's love of learning led her to the field of history and philosophy of science, which gives her the freedom to explore science and its meaning and seek a greater understanding of scientists and the processes they use. Her work specifically centers on developmental biology, including topics such as biomedicine and bioethics.

During spring 2002, Maienschein was on leave from ASU as a senior fellow for the Dibner Institute for the History of Science at MIT. She also spent time writing a book called "Defining Life," which draws from history and explores science and society's reactions to such innovations as recombinant DNA, cloning and stem-cell research. She has previously written two books and edited eight others.

Maienschein says one of the biggest parts of her work is communicating her knowledge and curiosity to others. Whether dealing with students in the classroom, community groups or federal judges wanting to learn about science, she continually tries to help others gain an appreciation for science.

"I haven't talked to many people who are incapable of learning about even the most complex science; you just have to work with them," she says.

Maienschein's persistence in working with others has resulted in numerous awards, including the Alumni Association Faculty Achievement Award in 2001, the Parents Association Professor of the Year designation in 2000, and the Distinguished Faculty Award in the College of Liberal Arts and Sciences in 1998.

"There are a zillion people at ASU who deserve these awards," she says. "I get teaching awards because my students are great. They are

excited about learning, and we all share a curiosity about nature and science and a willingness to work hard together. The Regents' Professorship is a huge honor that also reflects my good fortune in having the best students and wonderful colleagues."

## Astronomer Sumner Starrfield

Sumner Starrfield is a guy who has his head above the clouds—not a bad place to be if you're an astronomer. But Starrfield is no ordinary astronomer. His work, spanning more than 30 years, is world renowned, and his research has earned him fellowships in the prestigious American Physical Society and the Royal Astronomical Society.

Starrfield, who was recently named a Regents' Professor, came to ASU in 1972 as the university's first astronomer. He still remembers his introduction at the college's faculty assembly.

Regents' Professor of Astronomy Sumner Starrfield

"I was introduced as the university's first astronomer, Sumner Starrfield, and of course, all the faculty broke into laughter. That is how my ASU career began," he says.

Starrfield insists his last name is only a coincidence. Originally a mathematics major at Berkeley, Starrfield enrolled in his first astronomy class during his junior year and discovered it was what he wanted to do for the rest of his life.

"I LOVE DOING RESEARCH IN AN ACADEMIC SETTING BECAUSE YOU CAN EXPLORE ANYTHING YOU CAN GET FUNDING FOR, AND I LOVE TO TEACH. IT IS FUN TO TEACH, ESPECIALLY UNDERGRADUATES. I ALSO HAVE HAD OUTSTANDING GRADUATE STUDENTS."

REGENTS' PROFESSOR SUMNER STARRFIELD

"When I started doing undergraduate research and looking at things out there (in space) that no one had looked at before—the mysterious and the unknown—I was hooked," Starrfield says. "Under the tutelage of my professors, I came to realize this was one area where I could make great contributions."

During his career, Starrfield has laid claim to many firsts. He was the first to theoretically study the magnetosphere gate model for X-ray outbursts, and he was the first to identify and explain the hottest kind of pulsating stars.

Starrfield's most outstanding scientific achievement is the confirmation that an explosion of gas falling onto the surface of a white dwarf in a close binary star system was the cause of the nova outburst. A white dwarf is a type of star that contains about as much matter as the sun, but it is packed into a size comparable to the earth.

Starrfield and his students recently developed new techniques to measure the chemical composition of gas emitted from a nova explosion, which shows that this gas contains materials from a white dwarf. Since the sun will eventually become a white dwarf star, these studies are providing important details on the final phase of the sun's life.

"I love doing research in an academic setting because you can explore anything you can get funding for," he says, "and I love to teach. It is fun to teach, especially undergraduates. I also have had outstanding graduate students."

Starrfield has been continuously funded by the National Science Foundation since 1974 and by NASA since 1980. This external funding—more than $2 million—has helped to support students, post-doctoral researchers and visiting faculty, and it has paid for students' attendance at science meetings and trips to collaborate with other astronomers.

Sitting in his office, Starrfield reflects on his career and says he is grateful for the Regents' Professorship.

"What a wonderful honor," Starrfield said. "All I could say after hearing the news was 'Yes!' It was such a surprise."

# CLAS Faculty Earn Recognition from White House on Down

Charles Arntzen with his genetically engineered tomato plants

President George W. Bush is among the many individuals and organizations that have recognized the talents and contributions of CLAS faculty members during the past year. Last December, Bush appointed **Charles J. Arntzen**, Florence Ely Nelson Presidential Chair in Plant Biology and director of the Arizona Biomedical Institute at ASU, to his science advisory council. Composed of 24 prominent individuals from industry, education and research institutions, the President's Council of Advisors on Science and Technology makes recommendations to the president on new opportunities for scientific and technological advancement. Arnzten is the only academic laboratory scientist on the panel.

"I'm really honored to have been chosen," says Arntzen. "This is a time of far-reaching discoveries in science that have broad economic and societal impact. The other members of the council are top leaders in research in the public and private sector, and it will be educational and exciting to discuss U.S. policy issues with them."

A member of the National Academy of Sciences, Arntzen is a pioneer in the genetic engineering of plants to produce edible vaccines. Other members of the president's council include Michael Dell, chairman and chief executive officer of Dell Computer Corporation; Gordon Moore, a founder and chairman emeritus of Intel; and Charles M. Vest, president of the Massachusetts Institute of Technology.

Following are some of the other accolades CLAS faculty and staff have earned recently.

## GUGGENHEIM FELLOWSHIPS

Anne Feldhaus

Richard Satterlie

For the second year in a row, ASU is one of a few universities nationally with more than one Guggenheim Fellow on its faculty. Religious studies professor **Anne Feldhaus** and biology professor **Richard Satterlie** are among the 184 2002 Guggenheim Fellows in the United States and Canada. Awarded annually by the John Simon Guggenheim Memorial Foundation, the fellowships reward men and women who have demonstrated exceptional capacity for productive scholarship or creative artistic ability. The fellowship grants, which average approximately $36,000, are intended to provide recipients with six months to a year of time to work with as much creative freedom as possible.

Feldhaus, a scholar of south Asian religions who has been a member of the religious studies department since 1981, will use her fellowship to complete an anthology of oral literature from western India focusing on the relationships between brothers and sisters. Satterlie, who joined the biology faculty in 1980, conducts research aimed at understanding the neurological basis for behaviors that are often described as urges, impulses or moods and will continue that work as a Guggenheim Fellow. Although he primarily focuses his studies on a species of mollusk, Satterlie believes his research could lead to knowledge about the causes of eating disorders, obesity, alcoholism and addictions in humans.

## NATIONAL SCIENCE FOUNDATION CAREER AWARDS

Two ASU mathematicians and a geological scientist have been recognized by the National Science Foundation (NSF) as faculty who are likely to become academic leaders of the 21st century. **Edward Garnero**, assistant professor of geological sciences, and **Michelle Zandieh** and **Yijun Zuo**, assistant professors of mathematics, are among the recipients of NSF Faculty Early Career Development grants in 2001 and 2002. The awards, which range from $200,000 to $500,000, support exceptionally promising junior faculty members who are committed to integrating research and education.

Garnero was awarded a grant for a project involving science education in seismology and geophysics, including developing new undergraduate and graduate courses that incorporate three-dimensional visualization, analogies and active learning. Zandieh received a grant last fall to further her work in developing an understanding of student mathematical reasoning in undergraduate transition courses. Zuo's award will allow him to continue his research into estimation and detection of unusual data points in multivariate data.

## PUSHCART ANTHOLOGY

Regents' Professor of Spanish **Gary Keller**, the author of several works of fiction, has been recognized in "The Pushcart Book of Essays: The Best Essays from a Quarter Century of the Pushcart Prize." The anthology includes Keller's award-winning essay, "The Man Who Invented the Automatic Jumping Bean," among its 35 selections from such authors as Joyce Carol Oates, Andre Debus and Louise Erdrich. The Pushcart Prize recognizes the most distinguished short stories, essays and poetry first published by small presses and magazines across the nation. Keller's essay was first published in the Bilingual Review, which is produced by the Hispanic Research Center at ASU, and included in the 1977 Pushcart Prize collection.


Edward Garnero


David Hestenes


Michelle Zandieh


Malcolm Comeaux


Yijun Zuo


Robert Pangrazi


Gary Keller


Leona Aiken

## ASSOCIATION HONORS

A number of national professional associations have honored CLAS faculty members this year with their most prestigious awards. The American Association of Physics Teachers presented its Oerstad Award, one of the most prominent prizes in science education, to **David Hestenes**, professor emeritus of physics and astronomy. The Oerstad Award recognizes notable contributions to the teaching of physics. Previous recipients include Carl Sagan and several Nobel Prize winners. Hestenes has been a national leader in reforming physics education, having developed several programs that are used as national models and summer workshops that have trained more than half of the high school physics teachers in Arizona.

The Association of American Geographers recognized another emeritus faculty member, **Malcolm Comeaux**, with its Distinguished Teaching Honors this year. During his 32-year career at ASU, Comeaux has made many contributions to Arizona middle- and high-school geography programs. Most notably, he co-founded the Arizona Geographic Alliance, which provides funds for the state's geography teachers to go on field trips and attend conferences and workshops.

In addition, kinesiology professor **Robert Pangrazi** received the Distinguished Scholar Award from the National Association for Physical Education in Higher Education, and psychology professor **Leona Aiken** was the inaugural recipient of the Jacob Cohen Award for Distinguished Teaching and Mentoring, presented by the American Psychological Association's Division of Evaluation, Measurement and Statistics.

# In Memoriam

*The College of Liberal Arts and Sciences mourns the loss of the following faculty members during the past year:*

## MARTHA BERNAL

Psychology professor Martha Bernal passed away Sept. 28, 2001, from cancer. She was 70. Bernal was born April 13, 1931, in San Antonio, Texas, and was raised in El Paso, Texas.

Defying expectations that she should get married and stay at home, she became the first Latina in the United States to earn a doctorate in psychology. Before joining the ASU faculty in 1986, she worked at the University of California, Los Angeles; the University of Arizona and the University of Denver. In addition to serving on the psychology faculty, she was a charter member of the Hispanic Research Center at ASU.

After immersing herself in the field of minority mental health during a sabbatical year in 1979, Bernal became the leading researcher on the training of minority psychologists. She also led change in the structure of the American Psychological Association (APA), including helping to form the APA Board of Ethnic Minority Affairs. Bernal also contributed to the establishment of the National Hispanic Psychological Association and served as the group's treasurer and president.

At ASU, Bernal was a highly productive scholar, educator and mentor of numerous graduate and undergraduate students, a strong role model for many faculty members and a voice of counsel to the Latina and Latino community both within and outside the university. She conducted innovative work on ethnic identity development, including co-publishing an edited volume on the subject and helping to organize an annual symposium on ethnic identity. In August 2001, Bernal received the APA Award for Distinguished Senior Career Contributions to the Public Interest.

Bernal suffered from three bouts of cancer before succumbing to the disease last fall. The psychology department has established a scholarship fund in her memory. Gifts may be sent to the Department of Psychology, c/o Martha E. Bernal Endowment Fund, Arizona State University, PO Box 871104, Tempe, AZ 85287-1104, with checks payable to the ASU Foundation for the Martha E. Bernal Endowment.

## WENDELL LEE MINCKLEY

Wendell Lee Minckley, professor emeritus of biology, died June 22, 2001, from complications associated with treatment for cancer. He was 65 and lived in Tempe. Minckley taught and conducted research at ASU for 38 years, beginning in 1963 and extending beyond his retirement in 2000.

He was born Nov. 13, 1935, in Ottawa, Kansas. He earned a bachelor's degree in wildlife and fisheries biology from Kansas State University, a master's degree in zoology from the University of Kansas and a Ph.D. in biology from the University of Louisville. A one-year appointment in the biology department at Western Michigan University preceded his move to ASU in 1963.

Minckley was among the first faculty members recruited to move the university from its traditional roots as Arizona Territorial Normal School toward the major research university that it is today. He played a seminal role in that transformation as he garnered major research awards, trained students, and established an internationally recognized research program in aquatic ecology, systematic ichthyology and conservation biology.

Minckley was the author and editor of three books and some 175 journal articles and book chapters. In 1973 he published Fishes of Arizona, the first compendium of the fishes of the region.

Minckley was among the founders of the Desert Fishes Council, a group dedicated to conserving aquatic habitats and fishes in arid lands. He was tireless in his conservation efforts and a gifted naturalist. Five species (a snail, scorpion, beetle, fly, and a cichlid fish) are assigned the name "minckleyi" in recognition of his discoveries.

Minckley was an internationally respected authority on the fishes of the Southwestern United States and Mexico, and he dedicated his professional life to preventing their extinction. Memorial gifts may be made to the Desert Fishes Council, c/o Department of Biology, Arizona State University, P.O. Box 871501, Tempe, AZ 85287-1501.

### HANS SEBALD

Hans Sebald, professor emeritus of sociology, died Feb. 2, 2002, at his home in Gold Canyon, Ariz., after a courageous battle with angiosarcoma. He was 72.

Sebald was born Feb. 22, 1929, in Serb, Germany, and came to the United States in 1954 with a scholarship to attend Manchester College in Indiana. He received his bachelor's degree from Manchester College and then attended Ohio State University, where he earned his master's and doctorate degrees. He taught at ASU from 1963 to 1992. He became a naturalized U. S. citizen in 1968.

Sebald taught courses in the sociology of youth and social psychology and conducted research in a variety of subjects. He had an extensive publication record in the study of adolescence. Among his books are "Adolescence: A Sociological Analysis" and "Momism: The Silent Disease of America." He also wrote scholarly books on witchcraft, including "Witchcraft: The Heritage of a Heresy."

He loved the outdoors, especially hiking in the mountains and deserts of Arizona. He was a conservationist, animal lover and world traveler. During many summers Sebald did research on witchcraft in Bavaria, where a grandmother had been a practicing witch.

Although Sebald retired in 1992, he remained active as a scholar, publishing his last scholarly book on witchcraft in 1995. He then dedicated himself to writing an historical novel based on witch persecutions in 17th century Germany. Sebald is survived by his wife, Karen, and her three sons as well as his siblings and cousins in Germany.

### GEORGIA SMITH

Georgia Ann Floyd Smith, an ASU associate professor of biology, died Sept. 2, 2001, of a stroke complicated by acute leukemia. She was 52.

Smith was born in Decatur, Ga., and was named for the state. She earned bachelor's degrees in environmental biology and chemistry from the University of California at Santa Barbara, a master's of public health in toxicology from the University of Michigan and a doctorate in biochemistry from the University of California at Riverside.

Smith joined ASU's zoology department (now the biology department) in 1985 and was also a founding faculty member of the molecular and cellular biology program. In 1991 she was promoted to associate professor, and she spent part of 1998 as a visiting scientist at the prestigious Cleveland Clinic.

Smith focused her research on genetics. She received funding from the National Science Foundation, the Arizona Disease Control Research Commission, American Cancer Society and the National Institutes of Health (NIH). From 1989 to 1994 she received an NIH Research Career Development Award, a distinctive grant that provided five years of support for unencumbered attention to research.

Smith taught courses in human genetics and cellular biology. She published 40 papers and book chapters and had recently completed a textbook on human genetics.

For several years before being diagnosed with acute leukemia last August, Smith fought breast cancer. While struggling with the disease, she would at times have her chemotherapy treatment in the morning and be in the laboratory in the afternoon. Smith is survived by her husband, Randall, and two children, Kendall and Jessica, both ASU undergraduates.

# Class Notes

## Rebecca White Berch

In March, CLAS alumna Rebecca White Berch became only the third woman to be appointed to the Arizona Supreme Court. And at age 46, she is also the court's youngest justice.

Berch earned a bachelor's degree in sociology at ASU in 1976 before getting her law degree, also from ASU. She later came back to the College of Liberal Arts and Sciences to pursue a master's degree in English, which she completed in 1990.

After graduating from law school in 1979, Berch worked for the firm of McGroder, Tryon, Heller, Rayes & Berch. She left in 1986 to join the ASU College of Law faculty. While serving as director of the law school's legal writing program, she decided to return to school for a master's degree in English.

"Many of the law students' writing skills were not where they should have been," Berch says. "I decided that further education on my part might assist me in communicating concepts to my students."

After her tenure in the College of Law, Berch served as Arizona's solicitor general, then as special counsel to then-Arizona Attorney General Grant Woods. From there she became first assistant attorney general. In 1998, Berch was appointed to the Arizona Court of Appeals, where she wrote more than 300 opinions on a wide range of issues and topics. Berch's distinguished legal career reached its pinnacle when Gov. Jane Hull appointed her to Arizona's highest court this spring following a rigorous merit-selection process.

As a state Supreme Court justice, Berch is actively involved in the court's outreach and education programs. She is currently dean of the Arizona Judicial College and teaches many continuing legal education seminars.

Even more important to Berch, though, are the opportunities to teach and interact with students and the general public. She often judges high school, college and law school mock trial and moot court competitions. It is in these settings that she can best educate others about the courts and justice in America.

"Our system may have warts," Berch says. "But it's still a great system."

During her journey to the Arizona Supreme Court, Berch has maintained strong ties to the university from which she is a three-time graduate. Her husband, Michael, is a professor in the College of Law and the couple funds a law school scholarship.

According to Berch, much of her legal success can be attributed to her broad-based liberal arts background, which she says is the best foundation for the study of law. Berch's belief in the importance of a well-rounded liberal arts education has apparently been passed on to her daughter, who is currently a junior humanities major at ASU.

### 1968

**BENNETT KAUFMAN** (B.S., microbiology) is a clinical research specialist at PSI International in Bethesda, Md. Last year he was given the company's Vision of Excellence Award for managing special regulatory projects related to the National Cancer Institute's conduct of clinical trials of experimental cancer drugs. Kaufman previously worked in regulatory affairs for the U.S. Food and Drug Administration and for a small biopharmaceutical company. After graduating from ASU, he earned a master's degree from Yale and a Ph.D. from the University of Maryland, College Park.

### 1971

**TERRY BRANSON** (B.S., mathematics) is a captain for Southwest Airlines. Prior to joining Southwest, he was a U.S. Air Force pilot for 21 years and former squadron commander of the F-15E "Triple Nickle."

### 1972

**DIANNE MARSHALL** (B.A., history) is employed as a therapeutic courts administrator for the Mendocino County Superior Court in California.

**JIM ZELENSKI** (B.S., economics) lives in Lakewood, Colo. and is on the faculties of Regis University, the University of Colorado, and Red Rocks Community College. In October 2000, he received the ASU Economics Alumni Association Alumni of the Year award in recognition of his role as project manager for the City of Lakewood's new Cultural Center and Civic Center. Last year, he retired from his position as deputy city manager of the City of Lakewood after 25 years in city management. In addition to his degree from ASU, Zelenski holds a master's degree from Cornell University's College of Human Ecology.

### 1973

**MARLENE (SKIBA) VANSICKLE** (B.S., political science; M.P.A., French 1979) completed the education necessary to receive her broker's designation and now holds a brokers license in the state of Arizona. She works for Russ Lyon Realty in Phoenix.

### 1976

**STERLING J. SMITH** (B.S., biology) is currently employed as a litigation paralegal. He previously worked for state governments and on environmental projects. In 2001, Smith married Susan D. Hemmie (ASU class of 1979). The couple lives in Mesa.

### 1978

**GEORGE LANGSTON COOK** (B.S., history) is an addictions counselor at East Orange General Hospital in East Orange, N.J.

### 1979

**JAYANN (HENDERSON) FORDON** (B.S., home economics) is co-president of the Scottsdale, Ariz., branch of the American Association of University Women. AAUW promotes equity for all women and girls, lifelong education, and positive societal change. Fordon is also a Realtor with John Hall and Associates.

### 1980

**DWAYNE D. GREMLER** (B.A., mathematics) is an associate professor of marketing at Bowling Green State University in Bowling Green, Ohio. In addition to his math degree from ASU, he also earned an M.B.A. and Ph.D. in marketing.

## 1982

**JOHN F. CROSSEN** (B.A., Spanish) has been a visiting assistant professor of Spanish at Regis University in Denver, Colo. He plans to return to Arizona for post-doctoral research and to defend his dissertation in Spanish at Indiana University this fall.

## 1985

**KENNETH C. WORTLEY** (B.S., political science) is a supervisory special agent with the U.S. Customs Service in Tucson, Ariz.

## 1987

**JOHN HUTSON** (B.A., French) is human resources manager for advertising agency Lowe Alice in Paris.

## 1988

**GREGORY PAUL DAVIES** (B.S., geography) is senior transportation planner/metropolitan planning organization director for the city of Longview, Texas.

## 1990

**ELISABETH BAINS** (B.S., psychology) works for the United Way of Greater New Orleans as executive director for the Northshore.

## 1991

**MARC A. BEASLEY** (B.S., sociology) is a recreation coordinator for the city of Mesa, Ariz. His first child, Madison Shea Beasley, was born Feb. 3, 2001.

## 1992

**ANDREW F. ORTIZ** (B.A., political science) has been named to the boards of directors of NewTown Community Development Corporation in Tempe and the Tempe Community Action Agency. He also has been honored by the International Dictionary of Leadership, Who's Who Historical Society in Massachusetts, and Maricopa County Human Services. Ortiz, who holds a master's degree in public administration and a law degree from ASU in addition to his bachelor's degree, is president and CEO of Ortiz Leadership Systems and program director for Kid's Voting Arizona.

**LAURA PECK** (B.A., humanities) is completing a Ph.D. in public administration and teaching in the ASU School of Public Affairs.

**JIM WARING** (M.A., political science) is legislative liaison for Senator John McCain of Arizona. He also earned a Ph.D. in public administration from ASU in 1998.

**TED WUESTE** (B.A., psychology) is pastor of Christ Chapel Bible Church in Fort Worth, Texas. He holds a master of divinity degree from Western Seminary and a master of sacred theology from Dallas Seminary and is presently working on his doctorate.

## 1993

**VICTORIA (SCIABARAS) CASSINGHAM** (B.A., English) is a stenographer student living in Clearfield, Utah.

**WILLIAM CROFT** (B.A., English) is an attorney practicing civil litigation in Eastern Washington and Northern Idaho. He earned his law degree from Gonzaga University in 1998.

**MARK S. EVANS** (B.A., history) is a senior account manager for Insight in Tempe.

**CLAUDIA GOEDDE** (B.A., psychology) earned a doctor of psychology degree in 2000 at the California School of Professional Psychology in San Diego. She is currently completing her post-doctoral internship at EYE Counseling and Crisis Services in Escondido, Calif., and has been married since 1999.

## 1994

**SHARON VINCENT** (B.A., political science) is co-president of the Scottsdale, Ariz., branch of the American Association of University Women. AAUW promotes equity for all women and girls, lifelong education, and positive societal change. Vincent also works in the marketing department at KAET-TV (Channel 8) at ASU.

**JERILYNN HOFF** (B.S., exercise science) is a registered nurse at Western Missouri Medical Center in Warrensburg, Mo.

**JENNIFER S. MURRAY** (B.S., political science) earned a law degree from ASU in 1998 and completed a master's degree in library science at the University of Arizona. She is currently employed as a law librarian at the University of Southern California.

## 1996

**CARA (SHEEHAN) SMITH** (B.S., exercise science) is an exercise physiologist at Backus Hospital in Connecticut. She is attending the University of Connecticut School of Nursing and is a member of the UConn cycling team.

**JILL M. TALL** (B.S., zoology) earned her Ph.D. in pharmacology and is now a postdoctoral fellow in the department of anesthesiology at Johns Hopkins School of Medicine in Baltimore.

## 1997

**KEVIN FORSBERG** (B.A., English, political science) is an attorney in Houston. He received his law degree in 1999 from the University of Houston.

**DONALD A. FRIEND** (Ph.D., geography) is an associate professor of geography and director of Earth Science Programs at Minnesota State University in Mankato, Minn. He is a biographee in Who's Who in America, was appointed U.S. representative to the International Geographical Union Study Group on Diversity in Mountain Systems, and is the founder and an advisory board member of the Association of American Geographers. Friend and his wife, Lisa (B.A., family resources and human development 1993), welcomed their second child, Reilly Rose Friend, on April 20, 2001. Son Scanlon Parker Friend was born Oct. 9, 1998.

**WENDY S. GRIEGO-HOSMAN** (B.A., English) has owned Valores Financial, an investment company, since 1999. She and her husband are independent retirement planners in Albuquerque, N.M.

**LAURA (LEDGER) IMPARATO** (B.A., psychology) gave birth to a baby daughter, Sophia Isabella Imparato, on June 7, 2001.

**CHRISTIE POULTON** (B.S., speech and hearing science) is a speech-language pathologist at Cedars Sinai Medical Center in Los Angeles. She received a master's degree in speech-language pathology from California State University, Los Angeles.

**ROBERT SOZA** (B.A., English) is a doctoral student in ethnic studies at the University of California, Berkeley. He received a master's degree from UC Berkeley in 1999 and was a 1999-2002 Ford Pre-Doctoral Fellow.

**LORI WEAVER** (M.S., family and human development) is employed by the College of Nursing at ASU as a research specialist senior. She married fellow ASU student Nicholas Campbell on June 10, 2000. The couple lived in Grenoble, France, for six months while Nick participated in an exchange program.

## 1998

**BEN GOLDMAN** (B.A., English) is Web content administrator for Apollo Group Inc. in Phoenix.

**MICHAEL P. MILLETTE** (B.S., biochemistry) is attending physician assistant school at Kirksville College of Osteopathic Medicine in Mesa, Ariz. He and his wife, Gayle, married on March 31, 2001.

**MIKE R. PAREDES** (B.A., Spanish) is a charter school manager for Yuma Private Industry Council, Inc., in Yuma, Ariz. The charter high school he manages serves 16- to 21-year-old students with special needs, low income, and unique educational/family history.

**SPRING STEED** (B.A., chemistry) is a chemical purchasing buyer for Aerojet Fine Chemicals in Rancho Cordova, Calif.

**JONATHAN O. M. TAYLORMOORE** (B.S., biology) is a fourth year medical student at Vanderbilt Medical School. After graduation he plans to move back to the West and pursue a career in ophthalmology.

**JOHN WHITEFLEET** (B.A., Russian) earned his law degree from California Western School of Law. He is an associate with Kennerson, Schwartz, Semerdjian & Haile in San Diego.

**ALLISON (BRISTOW) WILLIFORD** (B.A., psychology) is employed as a special education teacher and is working toward her master's degree in counseling at the University of Phoenix.

## 1999

**LAURA BETH BARNES** (B.A., economics) is a foreign/cultural expert consultant for the Shenzhen Education Bureau in Shenzhen, China.

**RUCHI BHARGAVA** (B.S., psychology) is pursuing a Ph.D. in clinical psychology at Gallaudet University in Washington, D.C., after earning a master's degree in marriage and family therapy from Nova Southeastern University last year.

**TODD BUTLER** (M.S., communication disorders) is a speech-language pathologist and preschool coordinator in Gorham, N.H.

**STACEY DALGLEISH** (B.S., exercise science and physical education) is employed by Desert Samaritan Hospital in Mesa, Ariz., and is attending physical therapy school.

**TONIA GEECK** (B.A., political science) is a configuration management specialist for Foster Wheeler Environmental Corp. in Richland, Wash.

**MELISSA LEITER** (B.S., microbiology) is a medical student at the University of Arizona. She plans to specialize in emergency medicine.

**STACI MAIERS** (B.A., Russian, political science) is director of communications for Service Employees International Union 1199 Florida. After graduating from ASU in 1999, she worked as a national press advance for the Bill Bradley for President campaign. Maiers has also worked as a public relations account executive, a broadcast media coordinator for the Service Employees International Union, and a media strategist for The Rendon Group, a global communications strategy firm.

## 2000

**AMY ANDERSON ALLEN** (B.S., family resources and human development) lives in Kenilworth, Ill. Her son, Jackson Anderson Allen, was born Nov. 28, 2000.

**KEVIN C. ALLEN** (B.S., biology) is a student naval aviator with the U.S. Navy in Meridian, Miss.

**ANGELA AMUNDSON** (B.S., family resources and human development) is a program assistant in consumer programs and services for San Diego Gas and Electric in California.

**TED ARNESON** (B.A., Spanish) is corporate sales account manager for Documentum Inc. in Pleasanton, Calif.

**JESSICA BAKER** (B.A., psychology) is a child protective services specialist for the Arizona Department of Economic Security.

**WENONA RAE BENALLY** (B.A., English) has been admitted to Harvard Law School. After attending a pre-law program in Albuquerque this summer, she will begin work toward her J.D. degree this fall. She also has plans to earn an M.B.A.

**NOAH S. BLECHMAN** (B.A., history) works as a broker for Mortgage Quest in Scottsdale, Ariz.

**CHRISTINA (ROBLES) DEMICHELE** (B.S., biology) is a purification technician for Avecia in Milford, Mass. She recently married Ed DeMichele and now lives in Rhode Island.

**MATTHEW DERR** (B.A., economics) lives in Scottsdale, Ariz., and is employed by New West Energy as a regulatory affairs analyst.

**RACHEL FLEMING** (B.S., psychology) is pursuing a master's degree in art history.

**SANDY LE** (B.S., economics) is an account executive for Amerifund Inc., an equipment financing and leasing company based in Scottsdale, Ariz.

**ANTHONY PAUL MANNION** (M.A., geography) is a graduate student and teaching assistant at Kansas State University.

**REBECCA (ONG) TORODE** (B.S., family resources and human development) married Matthew Torode last fall and lives in Tempe, where she works as a habilitation technician for The Center for Habilitation.

## 2001

**MEGHAN ALLEN** (B.A., political science) lives in northern California and is employed by ESG Consulting, Inc.

**BRIAN ALAN ASHCROFT** (B.S., physics) is pursuing a Ph.D. in physics at ASU.

**SUSAN BANTA** (B.A., English) is a graduate student at the University of Chicago.

**LORRAINE BAUMACK** (B.S., psychology) is a research assistant at the University of California, San Diego.

**PIERRE-ANTOINE BELLONE** (B.A., French) is currently studying at the Yamasa Institute in Okazaki, Japan.

**ELENA M. BELTRAN** (B.A., anthropology) is an application coordinator for the University of Advancing Computer Technology in Tempe.

**IRENE GLORIA BERNAL** (B.S., exercise science and physical education) is a production specialist for Microchip Technology Inc. in Tempe.

**BROOKE BERNARDI** (B.S., psychology) is program director for Consumer Advocacy Projects Inc. in Phoenix.

**JENNA BLOCKHUS** (B.S., speech and hearing science) lives in Chandler, Ariz., and is a special education teacher for the Cartwright School District.

**SARA BLUMBERG** (B.A., psychology) is a case manager for the Olivieri Center for Women in New York City, where she also attends graduate school.

**SHANE BORG** (B.A., sociology) is the reconditioning manager for Scottsdale Lexus in Scottsdale, Ariz.

**DIANA BRANSON** (B.S., geography) is pursuing a master's degree at ASU and is a graduate research assistant in geological sciences.

**JOSEPH BROWN** (B.S., biology) is a student at the Southwest Naturopathic Medical School in Tempe.

**ANNIE CALLAGHAN** (B.S., political science) is a law student at the University of Oregon.

**LACEY CARTER** (B.A., English) is currently working on a degree in communications at ASU.

**VENNETTE CHANG** (B.A., Chinese) is a supervisor for Starbucks Coffee. She is currently applying for jobs in China.

**JENNIFER CIRAULO** (B.S., clinical laboratory science) is a medical technologist-microbiology for Scottsdale Healthcare in Scottsdale, Ariz.

**AMANDA CLEGG** (B.A., humanities) is pursuing a master's degree in environmental planning at ASU.

**SARAH CMEYLA** (B.A., psychology) is assistant manager and trainer for Comfort One Shoes in Washington, D.C.

**SCOTT SAMPSON CONKLIN** (B.A., political science) is a supervisor at Costco in Phoenix. He lives in Chandler with his wife, Dawn.

**TIFFANY DAVENPORT DIAZ** (B.S., psychology) is employed as a case manager at Intermountain Center for Cognitive Therapy in Salt Lake City, Utah. She is working toward a master's degree in social work at the University of Utah and was married to Erick Diaz in June 2001.

**VANESSA DEANS** (B.A., English) is enrolled at the University of Arizona Law School.

**RON J. DENNE, JR.** (B.A., psychology) is attendance coordinator for the Tempe Union High School District. He lives in Chandler, Ariz.

**ROCHELLE DESTRAMPE** (B.S., geology) is employed as an assistant hydrogeologist with Clear Creek Associates in Phoenix.

**DUANE DEVORAK** (B.A., Spanish) is working as a substitute teacher for the Glendale (Ariz.) Union High School District.

**DERAI DICKERSON** (B.S., exercise science and physical education) is working as a graduate assistant while pursuing a master's degree in recreation and leisure services administration at Florida State University.

**RHONDA DUERING** (B.A., anthropology) is an admissions coordinator at ASU's Barrett Honors College. She is also pursuing a master's degree at ASU.

**JANELLE ROBINSON** (B.A., psychology) is a senior desktop support specialist for DHL Holdings in Tempe.

**KELLY ELSENBAUMER** (B.S., exercise science and physical education) is a fitness program assistant at ASU's Student Recreation Complex. She is also pursuing a master's degree in exercise and wellness at ASU East.

**DANA ENGSTROM** (B.S., psychology) is an academic counselor for the University of Phoenix and plans to pursue her master's degree.

**CORY FLAKE** (B.S., economics) is a math teacher for the Thatcher (Ariz.) Unified School District.

**KATHLEEN FLYNN** (B.A., psychology) works as assistant to the personnel manager at Bashas' Inc. in Chandler, Ariz.

**ANNIE A. FOUNTAIN** (B.S., psychology) is an academic associate in the department of family and human development at ASU.

**DEBRA FOX** (B.S., biology) works as an administrative assistant in the medical offices of the Northup Group of Bellevue, Wash. She plans to attend physician assistant school.

## Eilene Theilig

As the Galileo spacecraft—one of this decade's greatest scientific marvels—enters its final phase of planetary research, CLAS alum Eilene Theilig is at the helm, guiding the spacecraft in its unprecedented explorations.

Theilig, the Galileo project's director, supervises a large team of scientists and engineers at NASA's Jet Propulsion Laboratory in Pasadena, Calif. The Galileo flight team has won numerous awards, and Theilig has received two NASA Exceptional Achievement Medals.

"This voyage of discovery has expanded our search for life in the solar system by revealing the presence of water beneath the surface of Europa (one of Jupiter's moons)," Theilig says. "I'm very proud to have been associated with one of the premier planetary missions of the last decade. Working with the talented, dedicated and creative members of the Galileo team will remain one of the highlights of my career."

Theilig received both her master's and doctoral degrees in geology from ASU, in 1979 and 1986, respectively. She came to ASU specifically to work with Regents' Professor Ronald Greeley in his then-newly established planetary studies program. Since graduating, Theilig has been driven by a self-professed "sense of adventure and the excitement of discovering and exploring new worlds."

And there is perhaps no greater adventure in planetary studies than the Galileo project, Theilig believes. After completing a survey of the major moons of Jupiter earlier this year, the spacecraft is being prepared for its final encounter in November, when it will make a close pass by Jupiter and Amalthea, a minor moon. Galileo will eventually impact with Jupiter in September 2003, according to Theilig.

In addition to its discovery of water beneath Europa's surface, Galileo has collected other remarkable information and images of Jupiter and its moons. Theilig and her team have analyzed volcanic action on Io, including a "curtain of fire" and volcanic plumes 400 kilometers high. The Galileo team has also collected the closest-range photographs ever taken of a jovian moon. These images, taken during a flyby just 83 miles above the surface of Callisto, reveal objects as small as a desk.

Theilig believes her graduate studies at ASU prepared her well for understanding the Galileo mission's many discoveries.

"The ability to research an issue, synthesize information, apply priorities and communicate technical ideas were all honed through the education I received at ASU," Theilig says. "The background in planetary geology that I gained is particularly useful in my current job."

**CHRISTOPHER S. GERZETIC** (B.S., political science) is a personal banker at Wells Fargo Bank in Sun Lakes, Ariz. He lives in Tucson.

**MATTHEW GLOYD** (B.S., microbiology) is a pharmaceutical sales representative for Glaxo Smith Kline in North Carolina.

**MELISSA GREENWALD** (B.S., political science) works as a project assistant for the Columbus, Ohio, law firm of Vorys, Sater, Seymour & Pease. She plans to attend law school.

**KATHLEEN (KELLER) GUENTHER** (B.S., microbiology) is a research health science specialist for the Veteran's Administration in Seattle, Wash.

**AYAKO HABU** (B.S., exercise science and physical education) works as an athletic trainer and graduate assistant at the University of Pittsburgh.

**LISA MARIE HENTHORN** (B.A., English) is pursuing an MFA in screen writing at the University of Nevada, Las Vegas and is working as a graduate assistant.

**KARYNSA HINTON** (B.S., biology) is a life sciences instructional specialist at ASU West. She plans to begin her graduate studies this fall.

**LUZ IBARRA** (B.A., Spanish) is enrolled at ASU West while working as lead service agent for Emery Worldwide in Phoenix.

**CHRIS INGLE** (B.S., psychology) is a child protective services case manager for the Arizona Department of Economic Security. Last year he received a commendation for his dedication and performance from the Arizona Supreme Court

**SHANNON COLLEEN KELLEY** (B.A., Spanish) is a Peace Corps volunteer in Vanuatu.

**MANDY KOCHERSPERGER** (B.A., English, sociology) attends law school at Santa Clara University in California.

**NANCI-JEAN KRUM** (B.A., psychology) is employed as a fraud investigator for Sears National Bank in Tempe.

**BRIAN LEARY** (B.A., English; B.S., psychology) lives in Phoenix and is an intern at Element Design + Communications.

**LYNN LEIBE** (B.A., psychology) is pursuing a doctorate in clinical psychology at Argosy University and works as a retail systems analyst for Safeway Inc. in Tempe.

**KARL JOSEF LEONARD** (B.S., exercise science and physical education) is an exercise physiologist for the Fitness Institute in Phoenix. He is ACLS, ACSM and CSLS certified.

**JO ANN LOPEZ** (B.A., sociology) is a graduate research assistant in Student Life at ASU and is working toward a degree in higher- and post-secondary education.

**TSAYTAH LYNCH** (B.A., humanities) is a receptionist for Rockford Fosgate in Tempe and plans to continue her education this fall at an art institute in New York or California.

**JESSICA C. MALDONADO** (B.S., family resources and human development) is employed by JP Morgan Chase in Tempe as an opener/sideline sorter.

**KIMBERLY M. MARTINSON** (B.A., English) is a graduate teaching assistant at the University of Oklahoma and is working toward a master's degree in composition, literacy and rhetoric.

**KRISTINA MATTHEWS** (B.A., psychology, political science) is attending law school at ASU.

**KATHRYN MCCOMBS** (B.S., microbiology) is a medical student at the University of Arizona.

**JOHANNA MEJIA** (B.A., Spanish) is a veterinary student at Mississippi State University.

**ROBIN M. MELLICK** (B.A., English) works for Orion Research Corporation of Scottsdale, Ariz., as an information coordinator.

**KENNETH MONTINI** (B.S., mathematics) is a graduate student at New York Medical College in Valhalla, N.Y.

**KATHERINE MORSE** (B.A., psychology) is director of the adult and family development project in the ASU psychology department.

**CLINTON "CASEY" MYERS** (B.S., mathematics, economics) is a minor-league baseball player for the Vancouver Canadians, the Oakland A's short-season northwest league. Last year he was named an all-star catcher and team MVP.

**KENNETH M. OVERTURE** (B.A., political science) works for Chase Bancard Services in Tempe as a clerk.

**JULIE PATRICK** (B.A., political science) works in U.S. Sen. Carl Levin's Grand Rapids, Mich., office as a staff assistant doing constituent relations.

**LISA PEPKA** (B.S., microbiology) is a medical student at the University of Arizona.

**MEGAN MARIE PEPPLE** (B.A., women's studies) is a program advocate for Peer Solutions Inc., a nonprofit organization involved in violence prevention in Phoenix.

**SHAWN PIVONKA** (B.A., sociology) lives in Scottsdale, Ariz., and works as a flight attendant for Southwest Airlines.

## Alon Unger

Alon Unger is a man on the move. Since graduating from ASU in 1999 with degrees in religious studies and biology, Unger has traveled the world serving others and pursuing the knowledge needed for a career in public health for underserved populations.

"I believe that my citizenship in the community is justified by the capacity to serve others," Unger says. "Helping at my parent's restaurant and attending classes at ASU, I was exposed to a diverse group of people from various ethnic and economic backgrounds. Those experiences stimulated a genuine curiosity and sense of social responsibility."

As an undergraduate student, Unger was involved in public health work that took him to Central America, China and Thailand. After graduation, he spent several years studying abroad as a Rhodes Scholar, earning master's degrees at Oxford University and the London School of Hygiene and Tropical Medicine. Most recently, he worked at the Africa Centre for Health and Population Studies in rural South Africa.

Now Unger is back in the United States preparing to enter medical school at the University of California, San Francisco. He is also one of 30 recipients nationwide of a 2002 Paul and Daisy Soros Fellowship for New Americans. More than 1,000 people applied for the Soros award, which includes an annual stipend of $20,000 plus half the tuition cost for up to two years of graduate study at any U.S. college or university.

The Soros Fellowship program was established five years ago to provide opportunities for able and accomplished new Americans—resident aliens, naturalized citizens and children of naturalized citizens—to achieve leadership in their chosen fields. A naturalized citizen, Unger was born in Canada to Israeli immigrants who settled in Arizona when he was a toddler.

As he moves forward with his plans to become a pediatrician and specialist in infectious diseases, Unger is focused more than ever on his vision for serving others. That vision, he says, was developed in large part by his undergraduate years in the College of Liberal Arts and Sciences at ASU.

"The people you meet in life shape your direction," Unger says. "ASU allowed me to learn from more than just faculty and fellow students—it encouraged me to be shaped by the community too."

Although he has earned advanced degrees from some of the most prestigious schools in the world, Unger still considers ASU his intellectual home.

"A broad liberal arts education provides the intellectual foundation for everything else that you do," Unger says. "The critical reading, writing and thinking skills you gain are so important."

**JENNIFER POWERS-RUOFF** (B.A., anthropology) is pursuing a nursing degree at ASU while working part-time in the front office of a family practice doctor's office.

**JONATHAN REDWING** (B.S., exercise science and physical education) is an emergency medical technician at Firebird Raceway in Chandler, Ariz.

**ANDREA PLETICHA RIX** (B.S., psychology) lives in Mesa, Ariz., and is a teacher in the Kyrene School District.

**SUMMER RODRIGUEZ-CONTES** (B.S., geography) is a mapping specialist for CB Richard Ellis in Tempe.

**STACEY RYAN** (B.S., microbiology) is enrolled in the School of Veterinary Medicine at Colorado State University.

**KELLI SASADA** (B.S., biology) works as a research and development technician at Abbott Labs in Abbott Park, Ill., and hopes to attend medical school.

**MICHAEL SIMMRIN** (B.A., philosophy) is an agents assistant at Creative Artists Agency in Beverly Hill, Calif., and plans to start law school this fall.

**JAMES TAYLOR** (B.S., biology) lives in Shanghai, China, where he studies Chinese and teaches English at the Orchard Language School.

**RYAN TAYLOR** (B.S., geography) is completing pre-dental course work at Northern Arizona University and plans to attend dental school.

**CHANTAL M. TOCCI** (B.A., Spanish) is a law student at the Roger Williams University School of Law in Bristol, R.I.

**ERIN TWOMEY** (B.A., sociology) is an academic advisor at the University of Phoenix, where she is also pursuing a master's degree in education.

**RENE M. VEREECKEN** (B.S., exercise science and physical education) is assistant restaurant manager at the Avalon Hotel in Beverly Hills, Calif.

**CARLOS M. VIZCARRA** (B.A., history) is a research analyst for the Democratic Congressional Campaign Committee in Washington, D.C. In 2000-2001, he was a Congressional Hispanic Caucus Institute Fellow in the office of House Democratic Leader Richard Gephardt.

**FRANNIE WELLINGS** (B.S., psychology) is a graduate student at the University of Pennsylvania.

**NATALIE (BANG) WHITLOCK** (B.S., biology) lives in Scottsdale, Ariz., and is preparing to begin her MBA studies.

**JESSICA G. WILHELMSEN** (B.A., political science) is employed by Remuda Ranch in Phoenix as a marketing office assistant.

**CHRISTINA WORDEN** (B.S., political science) is policy director for Fred DuVal for Congress in Flagstaff, Ariz.

**TIFFANY WOZNICKI** (B.S. conservation biology) is a graduate assistant at San Diego State University, where she is pursuing a master's degree in biology.

**PHOEBE Y. YUEN** (B.A. English) is a labor service representative for the New York State Department of Labor. She lives in Brooklyn, N.Y.

**JENNIFER ZACHARY** (B.S., biology; B.A., chemistry) is attending Harvard Law School.

**RACHEL A. ZOLLINGER** (B.A., history, political science) is a manager at Pier 1 Imports in Fremont, Calif.

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# CLAS students continue to garner national awards

Brian Lutz

*Every year since 1995, USA Today has named an ASU liberal arts and sciences major to its All-USA College Academic First or Second Team, which honors 40 undergraduates from across the country who "have already used their skills to improve society in original and wide-ranging ways." That is just one of the many national honors and awards CLAS students have garnered this year. Following are highlights of the recognition earned recently by some of the college's brightest and most promising students.*

### USA TODAY ACADEMIC FIRST TEAM

Brian Lutz, who plans to graduate this summer with degrees in biology, Spanish and finance and a 4.0 grade point average, earned a place on USA Today's 2002 All-USA College Academic First Team. The newspaper identified him as one of the top 20 students in the nation who have taken their college education "above and beyond." With the assistance of a CLAS scholar-citizen grant, Lutz co-created an inquiry-based science program for kids in Panama, which is being considered for implementation nationwide, and he developed an online science newsletter for children. After he completes a fellowship with the Environmental Protection Agency and a master's degree in biology at ASU, Lutz plans a career in environmental policy and sustainable development.

### TRUMAN AND UDALL SCHOLARSHIPS

Biology junior Esther Ellsworth is one of 77 students nationwide to win a 2002 Harry S. Truman Scholarship, established by Congress as a federal memorial to the country's 33rd president. The scholarship provides $30,000 for her senior year and for graduate study in preparation for a career in government or another area of public service. Ellsworth also won a Udall Scholarship, which provides $5,000 for her senior year. Established by Congress to honor the late Congressman Morris K. Udall, the scholarships are the nation's highest undergraduate awards for students planning careers in environmental public policy. Ellsworth is planning a career in environmental health.

Esther Ellsworth

### SOROS FELLOWSHIP

John Olivares Espinoza, who is pursuing a master of fine arts degree in creative writing, is one of 30 recipients nationwide of a Paul and Daisy Soros Fellowship for New Americans. (CLAS alumnus Alon Unger also has been named a Soros Fellow. See story on page 25.) The fellow-

ship comes with a $20,000 stipend plus half the tuition cost for up to two years of graduate study at any U.S. college or university. Funded by a New York couple who were Hungarian immigrants, the Soros Fellowship is designed to help able and accomplished new Americans—resident aliens, naturalized citizens and the children of naturalized citizens—to achieve leadership in their chosen fields. Espinoza, who wants to teach creative writing at a major university, was born in California to a mother who came to the United States from Mexico when she was seven and to a father who entered the country illegally by swimming the Rio Grande when he was 18.

### GOLDWATER SCHOLARSHIPS

Established by Congress in 1986 to honor the late Sen. Barry M. Goldwater, the Goldwater Scholarship is the nation's highest undergraduate scholarship in science, mathematics and engineering. Three CLAS students were named Goldwater Scholars this year: Kevin Ellsworth, a sophomore majoring in biochemistry and Spanish; Collin Raymond, a junior economics and math major; and Megan Thielges, a biochemistry junior. Each will receive $7,500 a year for one or two years. All three students plan to go on to earn doctorate degrees.

### NATIONAL SECURITY EDUCATION PROGRAM SCHOLARSHIPS

The National Security Education Program also awarded scholarships to three CLAS students this year, to support their study of languages, cultures and world regions that are critical to U.S. national security. Each student will receive up to $20,000 for study in Russia. The three winners are Kerry Pace, a geology major who will study language in Moscow and participate in an internship conducting research on the surface of Venus; Danielle Ross, a Russian and history major who plans to study Russian and Tatar at Kazan State University; and Anne Fredrickson, who will do work toward her Ph.D. in history at the Moscow Academy for Social Sciences and Humanities.


John Olivares Espinoza


Kevin Ellsworth


Collin Raymond


Megan Thielges


Danielle Ross

### AAAS POSTER COMPETITION HONORS

The American Association for the Advancement of Science (AAAS) honored three CLAS undergraduates at its 2002 student poster competition, an international exposition of scientific research by undergraduate, graduate and medical school students. The annual AAAS conference is the largest science convention in the world and is typically a showcase for the most noteworthy current research in science. The student poster competition gives emerging scientists an opportunity to present their first professional work.

Megan Dueck, who graduated in May with a biology degree, won first place in the organismal biology category. She is planning to do a post-baccalaureate fellowship at the National Institutes of Health in Washington, D.C. Brian Lutz, the USA Today Academic First Team member, also won first place in the poster competition, in the social science category. Matthew Forrester, who also graduated in May with a biology degree, earned an honorable mention in that category. The poster competition winners were featured in the April 12 issue of the journal Science.

### DOCTORAL STUDENT AWARDS

Three of the college's Ph.D. students were also among those earning national recognition this year. Stefanie M. Ickert-Bond, who is pursuing her doctorate in plant biology, was selected as an American Dissertation Fellow for 2002-2003 by the American Association of University Women Educational Foundation. The fellowship, worth $20,000, was awarded to only 51 out of 515 applicants.

The Ford Foundation awarded fellowships to two CLAS doctoral students, Benah Parker in psychology and Verma Lynne Miera in biology. This fellowship, directed to minority students, comes with an annual stipend of $15,500 and also covers tuition, fees and some travel costs for conferences.

## JONATHAN AND MAXINE MARSHALL DISTINGUISHED LECTURE
**THURS., SEPT. 19, 2002**

7 P.M., Gammage Auditorium
Speaker: Robert F. Kennedy, Jr., senior attorney for the Natural Resources Defense Council
Topic: Our Environmental Destiny
More information: clasdean.la.asu.edu/afc/Marshall/

## FELDT/BARBANELL ANNUAL WOMEN OF THE WORLD LECTURE
**THURS., OCT. 10, 2002**

7:30 P.M., Gammage Auditorium
Speaker: Eve Ensler, author of "The Vagina Monologues"
Topic: V-Day

## EARTH SCIENCE DAY
**SAT., OCT. 19, 2002**

9 A.M. to 3 P.M.
Bateman Physical Science Center
More information: geology.asu.edu

## ALUMNI ROUNDUP
**FRI., OCT. 25, 2002**

8:30 P.M. to midnight
Alumni Lawn in front of Old Main
$5 admission
More information:www.asu.edu/asasu/homecoming/oct25.html

## HOMECOMING
**SAT., OCT. 26, 2002**

More information:
www.asu.edu/asasu/homecoming/

## FALL COLLEGE CONVOCATION
**FRI., DEC. 20, 2002**

11 A.M., Wells Fargo Arena

For more college and university event information, go to events.asu.edu on the Web.

As an alumnus of the College of Liberal Arts and Sciences, you're an important part of the extended CLAS community. We want to hear from you. Please use the form on the opposite page to:

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- **JOIN THE ALUMNI ASSOCIATION**

ASU Alumni

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